Emergency Preparedness
Before Flooding

BEING PREPARED

Flood Notification

Alberta Environmental monitors weather patterns, precipitation and provincial water levels and flows. Its Environmental Monitoring and Evaluation Branch provides a comprehensive series of public advisories about potential flooding. These include river stage-up advisories, ice-jam warnings, high streamflow advisories, flood watches and flood warnings; for more information visit www.gov.ab.ca/env. The Branch advises water managers, municipalities and Emergency Management Alberta about flood potential.

- *A High Streamflow Advisory means that stream levels are rising or expected to rise rapidly and no major flooding is expected. Minor flooding in low-lying areas is possible. Anyone situated close to the streams affected (campers, fishermen, boaters and the general public) is advised to be cautious of the rising levels.*
- *A Flood Watch means that stream levels are rising and will approach or may exceed bank full. Flooding of areas adjacent to these streams may occur. Anyone situated close to the streams is advised to take appropriate precautionary measures.*
- *A Flood Warning means that rising river levels will result in flooding of areas adjacent to the streams affected. Anyone situated close to the river should take appropriate measures to avoid flood damage.*

Municipal governments are responsible for informing their residents about possible flooding and providing detailed information about what to do to protect their families and property. This information is often provided through local newspapers, and radio and television stations.

Develop a Family Emergency Plan (for all types of emergencies)

You and your family can minimize your loss in a flood situation. Information is your best defense when emergencies occur.

- Contact your local Director of Disaster Services or municipal government office to find out what emergency or disaster events could occur in your area. Ask what you should do to prepare for each. Learn the warning systems your municipal government uses. Make sure you know what the signals mean, how they will be used, and what you should do when you hear them.
- Develop a family emergency plan.
  - Discuss the type of disasters that could occur.
  - Explain how to prepare and respond.
  - Discuss what to do if advised to evacuate.
  - Practice what you have discussed.
- Include arrangements for family members with special needs (disabled and elderly who use special medical equipment, etc.) in your plan.
- Make arrangements for your family pet(s) in your planning. Contact your local disaster services office or your veterinarian for information.

- Plan how your family will stay in contact if separated by a disaster or emergency.
  - Pick two meeting places: (1) a location at a safe distance from your home in case of fire; (2) a place outside your neighbourhood in case you cannot return home.
  - Choose a relative or friend who lives outside your municipality, as a "check-in contact" for everyone to call.
- Post emergency telephone numbers by every phone in your home.
- Teach children how and when to call fire, police and emergency medical services, and which local radio station to tune into for emergency information.
- Prepare an emergency kit for the home and for each vehicle. Maintain the kits (replenish supplies, etc.) and make sure everyone knows where they are stored.
- Show family members how and when to shut off water, gas and electricity at the main switches.
- Learn your community's evacuation routes, as some hazards may force you to leave your home.
- Learn first aid and CPR.
- Meet with your neigbours and plan how you would work together in a disaster situation. Include neighbours with special needs, such as elderly or disabled persons in your planning. Contact your municipal administration to ensure that your plan is consistent with probable municipal actions.

Emergency Kit

An emergency can isolate you in your home for several days. After a disaster, local emergency services may be at the scene but cannot reach everyone immediately. When a disaster occurs, you may not have time to shop or search for supplies. But if you have supplies gathered in advance, your family can withstand isolation or evacuation.

- Family records kept at home should be stored in a portable, fireproof, and waterproof container.
  - mortgage papers, medical records, insurance policies, marriage and birth certificates, wills, bank account and credit card numbers, stock and bond certificates, tax records, passports, computer disks and tapes
  - irreplaceable items (photographs, heirlooms)
  - household inventory
  - important telephone numbers
- Store "tap" water in sealed, unbreakable containers. Adults need a minimum of one litre of water per day for drinking. Hot environments and intense physical activity can double that amount. Children, nursing mothers and ill persons may need more. Replace stored water every six months.
- Make sure you have at least a five-day supply of food and water for each family member on hand. Select foods that require no refrigeration, preparation or cooking and little or no water. Foods should be non-perishable, such as canned or sealed-package items. Rotate foods in with your regular pantry supplies. Suggested items are:
  - ready-to-eat canned meats, fruits and vegetables, and a can opener
  - canned juices, milk, soup (if powdered, store extra water)
  - cartons of ultra heat-treated (UHT) milk
  - staples - sugar, salt, pepper
  - high energy foods - peanut butter, jelly, crackers, granola bars, trail mix
  - foods for infants, the elderly or persons on special diets
  - comfort/stress foods - cookies, hard candy, sweetened cereal, instant coffee, tea bags

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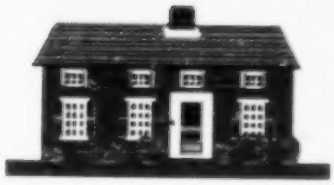
- Medicines required by family members such as insulin or prescriptions. Check with your doctor about storing prescription medicines.
- Foods required for special diets or baby foods.
- A solar, hand wind-up, or battery-operated radio and flashlight in working order, with extra batteries.
- First aid kit and manual. Your local fire department, St. John Ambulance office or Canadian Red Cross chapter can advise on what items to include in your kit.
- Fire-fighting equipment to suppress small fires, including an all-purpose fire extinguisher (rated A-B-C).
- Personal hygiene supplies.
- Portable heating device such as a catalytic heater using kerosene or propane. Know the hazards of using these fuels and be sure to follow the manufacturer's instructions. Always make sure there is adequate ventilation to prevent the build-up of hazardous fumes.
- See the last page of this document for a handy telephone list.

INSURANCE

- Insurance is readily and reasonably available for homes, and their contents; businesses, stock and equipment; farm buildings, livestock and equipment; and vehicles of all types. Check regularly with your insurance agent or broker to ensure you have appropriate and adequate insurance coverage, including any extensions in coverage that may be available, which were not previously.
- Coverage is available for most major disasters, e.g. fire, lightning strikes, an explosion, windstorm, hail, tornado and many others. Flood coverage can be added to business policies, but is not generally available for homeowners.
- Most policies include or can include coverage for damage caused by sewer back-up. Make sure your policy includes sewer back-up insurance.
- Keep a detailed inventory of your residence and/or business. Keep it in your emergency kit. It will be invaluable in the event of loss.
- Make sure your insurance policies and related records are in a safe location and easily available after an emergency or disaster event.
- The Insurance Bureau of Canada has information on all aspects of insurance. Their toll free number is 1-800-232-7475.
- Know what your insurance company requires should you need to make a claim.
- Note that government disaster recovery programs will not compensate for damage and loss for which insurance was readily and reasonably available before the disaster occurred.



HOW TO FLOODPROOF YOUR HOME

Municipal governments prevent flooding by maintaining the sewage systems. If you experience drainage problems, begin by ensuring that the source of flooding is not on your property. Take steps to floodproof your home. First, learn how and why flooding occurs.

What is a Sanitary Sewer?

- A sanitary sewer is a pipe, located in the street that is designed to transport wastewater from your home. This consists of water from sanitary fixtures and floor drains inside your house, as well as groundwater from weeping tiles around the foundation of your home.

What is a Storm Sewer?

- A storm sewer is a pipe, located in the street that is designed to carry storm-related water runoff. Storm sewers are normally much larger than sanitary sewers because they are designed to carry much larger amounts of flow.

What Causes Sewer Backup?

- Extra storm-related water (from sources other than wastewater and groundwater) should flow into the storm sewer or soak slowly into the ground without entering the sanitary sewer.
- If excess storm water does enter the sanitary sewer system, it causes a supercharged sewer flow. An eight-inch (20 cm) sanitary sewer can handle wastewater from up to 500 homes; however, it takes only a few unexpected water sources to overload this kind of system.
- Sewer backup insurance is available on most homeowner policies for a small premium. Check with your insurance agent or broker.

How Can a Supercharged Sanitary Sewer Cause Basement Flooding?

- A supercharged sewer flows at a greater than normal level. Basement flooding can occur if the home has sanitary fixtures or floor drains below the supercharged level.

Downspouts and Roof Drainage

- Most homes are equipped with downspouts which discharge the water collected by eavestroughs directly into the ground. Excess water runs into the front street where it enters the storm sewer. It is very important that this water does not enter the sanitary sewer. If your downspout drains too close to the side of your house, this water can drain into the sanitary sewer through the weeping tile adjacent to your house foundation.
- Damage or sanitary sewer surcharging can occur if rainwater drains too close to your house on ground that may not be tightly compacted. The excavation for your basement may have been dug a few feet wider on all sides to allow working room during construction of the basement walls. When this extra space was backfilled, the soil may not have been tamped down as tightly as the original soil, making it more likely to settle and trap surface water.
- Surface water soaking down to your foundation can create problems: it can damage your foundation, seep through cracks in your basement wall, causing dampness, or overload the sanitary sewer by draining through weeping tiles, causing a sewer backup.

What You Can Do to Prevent Flooding

- Fill in any settlement next to your house.
- Redirect storm water away from your house.
- Make sure the ground slopes away from your house on all sides.
- Always keep your downspout extension in place.
- Check to see that your downspout extension drains a good distance away from your house in an area that will not erode.
- Be careful that water does not drain into your neighbour's property.
- If your downspout is connected to the weeping tile adjacent to your home, disconnect it immediately.
- If you are constructing a new home and plan to build on a slab, or install a washroom in the basement, consider taking the necessary precautions to prevent sewage and water from backing up into your house through the sanitary drains.
- You may also consider taking these precautions in an existing home, but these changes vary in complexity and cost.
- You may be able to do some "flood-proofing" tasks yourself, while other changes need a qualified contractor or tradesman.
- One aspect of flood protection involves the installation of backflow valves on toilets, floor drains, washing machine drains, rain downspouts, sump pumps and any sink drains in the basement. Main sewer lines and septic connections should also be considered. These are designed to prevent sewage and water from backing up through these waste lines. Some backflow valves operate automatically while others may have to be closed by hand.
- In most cases the backflow valves may need to be installed by a qualified plumber or contractor according to existing building codes. Be sure you understand the type of backflow valves

installed, including their operation and maintenance.

- Your municipal office can advise on floodproofing in your geographic location.

Sewer Backup Protection Can Help

Talk to a qualified plumber before you install any sewer backup protection devices. Plumbing fixtures such as toilets, sinks, showers, floor drains and washing machines that are set below ground level require special protection from sewer backup. Read about the following devices and decide if they can help you.

- **Screw Cap**. If you're having trouble with your floor drains, a screw cap installed upstream of the trap seal of the floor drain may be all you require.
- **A Canadian Standards Approval (CSA) Inline Sewer Backwater Valve** should prevent sewer backup if you maintain it properly and have it checked regularly. Your plumber can provide you details on maintenance.
- **A Gate Valve**. Where a backwater valve isn't sufficient protection, you may need a gate valve and a backwater valve for basement plumbing fixtures that are subject to backflow.
- **Sewer Backup Insurance.** This insurance is available on most policies for a small premium. Check with your insurance agent or broker. (See *Insurance* on page 2)

Flood Watch/Warning

You can greatly reduce your risk of damage or loss, if you take the following precautions at the first warning of flood.

Personal and Family Safety

- Listen to the radio for the latest storm information.
- Be prepared to evacuate (see *Develop a Family Emergency Plan* on page 1).

Preparing to Evacuate

- Prepare a list of family members' prescribed medications including generic names and prescribed dosage. Also, list the name and telephone numbers of your doctors. For those who rely on medical devices such as a pacemaker, the style, serial number, and other pertinent information should be carried with you at all times.
- Collect all vital family records kept at your home, such as mortgage papers, medical records, insurance policies, marriage and birth certificates, passports, wills, stock and bond certificates, tax records, and other irreplaceable items (photographs, heirlooms) in one central location where they can easily be transported if you must leave the area quickly. Keep them in a waterproof and fireproof container.
- Ensure that you have a portable solar, hand wind-up, or battery-operated radio and spare batteries. Listen to the radio for flood advisories and warnings and follow instructions from your local government.
- Have a full tank of fuel in your vehicle. An electrical outage due to flooding may shut down service station pumps. If you don't have personal transportation, make alternative arrangements with a neighbour.
- Stock up on food that requires little or no cooking or refrigeration, and gather emergency lighting and cooking equipment such as flashlights, gas lights, candles, camp stoves, spare batteries, fuel and waterproof matches. Ensure fuel is stored and handled properly. Keep this gear operational and within easy reach. (see *Develop a Family Emergency Plan* on page 1)
- Know how to use the manual override of your garage door. Have an emergency key release if your garage door is the only access and exit to your home. Perform a manual operation safety test regularly.
- Store water in clean containers. The water supply may be contaminated before it becomes necessary to evacuate.
- Decide what basic supplies your family requires and stock up immediately. Pack supplies in waterproof containers or plastic garbage bags. Essentials include:
  - warm clothing and waterproof rubber boots
  - rain coats
  - blankets or sleeping bags in sealed plastic bags
  - prescription medicines and first-aid supplies
  - personal identification for each family member (name tags and wallet cards)
  - towels, soap, personal hygiene and toiletry items

Protecting Your Home

Take special note of the preparations you must take to protect your home and major electrical and gas-fired appliances.

- Know where to obtain sandbags, plywood, plastic sheeting and lumber to protect your house.
- Remove whichever household effects you can. If this is not possible, move
- Seal hazardous materials such as weed killers and insecticides in plastic garbage possessions from the basement to an upper floor, bags, and move them into safe storage or dispose of them safely.

Electrical Appliances

- At the first warning turn off electrical power and leave it off. If the basement is already wet, **be cautious.** If you are confident that you can do it safely, stand on a dry wooden chair or box and use a dry board or stick to turn off the main switch.
- Water usually ruins electrical motors. Move all portable electric heaters, power tools and electrical appliances to a safe place.
- If this isn't possible, and if you are qualified to do so, consider removing the motors, controls and switches from furnaces, refrigerators and washers.
- If you can, consider moving all thermally insulated appliances such as freezers and refrigerators to upper floors of the house. This precaution should save you the expense of replacing insulation if it gets wet.

Gas-fired Appliances

- At the first warning of flooding, turn off all gas-fired appliances and put out the pilot light. Then turn off the gas inlet valve to your home, which is located at the gas meter. This will prevent gas from escaping when the inlet valve is re-opened, in the event that any burner controls had been accidentally been left open.
- Do not remove any gas-fired appliances without ensuring that the main gas inlet valve has been closed.
- **There should be no smoking or open flames of any kind in the area.** To avoid causing sparks, use a flashlight taped in the "on" position.
- For a forced air furnace, move the fan motor and fan to a dry storage place if possible.
- Do not drain the hot water tank — it will serve as ballast to secure the tank in place.
- If gas appliances are removed, the gas outlets should be made tight by means of a plugged valve, a cap, or a plug on the piping system.

Plumbing

- Remove any basement toilet bowls. Plug these outlets and all other basement outlets, such as floor drains, sinks, laundry drains, etc., to prevent floodwater from entering them.
- Use wooden plugs or beanbags and secure these outlets with plank braces nailed securely to floor joists.

Fuel Tanks

- Anchor propane tanks to keep them from moving, even if they are full.
- Turn off the tank valve.
- Disconnect the tubing and seal the end.
- Secure the tank with heavy rope or chain, i.e., something heavy enough to resist the force of floodwaters.

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Protecting Farms Businesses

Equipment

- Move threatened machinery to high ground if possible.
- If machinery becomes submerged, extensive maintenance or repairs may be required.

Grains and Feeds

- Move to higher ground.
- Floodwaters can cause chemical and bacterial contamination of grain and livestock feed.

Insurance

- Coverage is available for production loss of crops due to natural perils. Contact Agriculture Financial Services Corporation (AFSC) at 1-800-396-0215 for more information.
- Keep a detailed inventory of your farm business. It will be invaluable in the event of loss.
- See page 2 for more information on insurance.
- Note that government disaster recovery programs will not compensate for damage and loss for which insurance was readily and reasonably available before the disaster occurred.

Livestock

- Move livestock to a safe place.
- Be sure feed and water can be provided at the new location. If livestock are left to fend for themselves, they may become isolated without food.

Stored Chemicals

- Move chemicals to high ground and safe storage.
- Chemicals can contaminate your drinking water and you could be liable for contaminating the property of others.

Water Wells

- Sandbagging or some other form of protection to prevent flooding and contamination of the well should be considered.
- If a well is contaminated, water should be sampled and tested before being used for human consumption.

Sandbagging

Using sandbags to build a dyke is a practical way to combat flooding. There are several ways to build a dyke but not all are effective, quick and easy.

These are some general guidelines for constructing a sturdy and functional dyke.

Sandbags

- If possible, use burlap bags. They retain, fill and firm up the dyke better than polyethylene bags.
- Half fill the sandbags with clay, silt or sand. **Do not** tie bags.
- The number of sandbags required per 100 linear feet of dyke are:
  1' high dyke = 600 bags
  2' high dyke = 2,000 bags
  3' high dyke = 3,400 bags

Building the Dyke

- Under ideal conditions, the height of the dyke should be 2 feet higher than the anticipated water level and the base should be 3 times as wide as it is high. (Example - if the water will rise 3', the dyke should be 5' high and 15' wide).
- If time and resources permit, support the dyke by digging a trench about 1 foot deep and 2 feet wide along the proposed site.
- If a trench has been dug, start by laying a row of sandbags in the trench.
- The next layer will make up the base of the dyke. These sandbags should be positioned parallel to the river.
- To eliminate gaps, walk on each layer to pack it down.
- The next layer should be positioned crosswise over the base layer.
- This pattern (parallel - crosswise) should be alternated from layer to layer.
- Stack each layer back half the width of a sandbag on each side of the structure so the dyke takes on a step-like appearance.
- Do not tuck the unfilled portion of the sandbag under. Lay the bag so the next bag sits on top of the unfilled portion. The last bag in the row should be tucked under.
- Contact your municipal office for additional information.

What to do during a flood

- Listen to your radio. Important instructions for your safety and information on the situation will be broadcast on local stations.
- If you are requested to leave the area, do so immediately and follow instructions issued by your municipal officials.
- Remember your neighbours, particularly the elderly. They may need your help or the assistance of municipal emergency services.
- Stay out of the flooded area until the municipal authority gives permission to return.
- Barricades are placed on roads for your protection. If you encounter a barricade, go another way.
- Avoid standing water. It may be electrically charged from ground or downed power lines.
- Do not attempt to drive over a flooded road. You could be stranded. Floodwaters can conceal debris or areas where the road has eroded. The ground underneath will probably be slippery.
- Watch for damaged roads, loose or downed wires and fallen objects on the road.
- **Do not drive through water unless you are certain the road is safe and the water is no higher than the wheels of your vehicle.** Proceed slowly to avoid splashing water on the engine and stalling it. When emerging from water, drive carefully because wet brakes do not work well.
- If your car stalls in rising waters, get out immediately and make your way to higher ground.
- Do not attempt to cross a flowing stream. You can be swept off your feet by only 15 centimetres (6 inches) of moving water.
- Whether in a car or on foot, avoid areas prone to flash flooding.
- Do not phone the disaster services office, police or fire department unless you need help or are calling on behalf of others requiring assistance. Your radio will keep you informed.
- Do not attempt search and rescue operations on your own.

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Important Phone Numbers

Police _____

Fire _____

Doctor _____

Ambulance _____

_____'s work # _____

_____'s work # _____

Children's schools _____

_____

_____

Utility companies _____

_____

_____

Neighbours _____

_____

_____

Other _____

_____

Name, address and phone number of an out-of-town relative or friend who can act as a point-of-contact.

_____

_____

For more information contact:

Emergency Management Alberta
14515-122 Avenue
Edmonton, Alberta T5L 2W4
Telephone: 780 422-9000
or 1-800-272-9600
Web site www.municipalaffairs.gov.ab.ca/ema

Should we have to evacuate, we need to take:

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